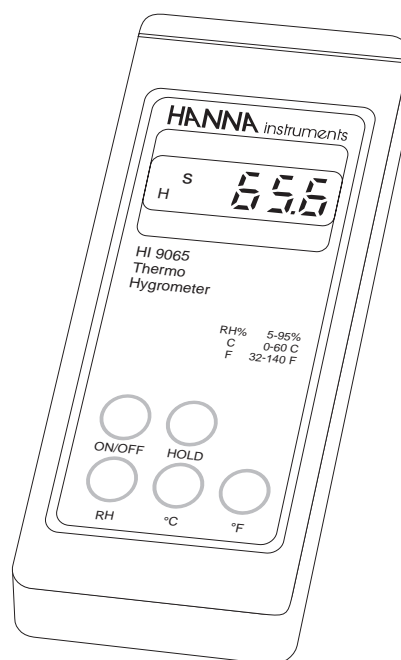


Instruction Manual

HI 9064 • HI 9065

Professional Water-Resistant Hygrometers



Dear Customer,

Thank you for choosing a HANNA instruments® product.

Please read this instruction manual carefully before using the instrument.

This manual will provide you with all the necessary information for the correct use of the instrument, as well as a precise idea of its versatility in a wide range of applications.

If you need additional technical support, do not hesitate to e-mail us at tech@hannainst.com

These instruments are in compliance with the CE directives.

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PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it to make sure that no damage has occurred during shipping. If there is any damage, immediately notify your dealer.

Each meter is supplied complete with:

- RH probe: **HI 70608/2** for **HI 9064**
HI 70605/2 for **HI 9065**
- Batteries (4 x 1.5V AA)
- Instruction manual
- Rugged carrying case

Note: Save all packing material until you are sure that the instrument functions correctly. All defective items must be returned to us in the original packing with the supplied accessories.

GENERAL DESCRIPTION

HI 9064 and **HI 9065** are heavy-duty hygrometers specially designed for field applications such as HVAC.

They are housed in a rugged water-resistant case to provide maximum protection in the field.

The relative humidity probe houses a thin-film polymer sensor, which quickly performs all RH readings to 98% accuracy.

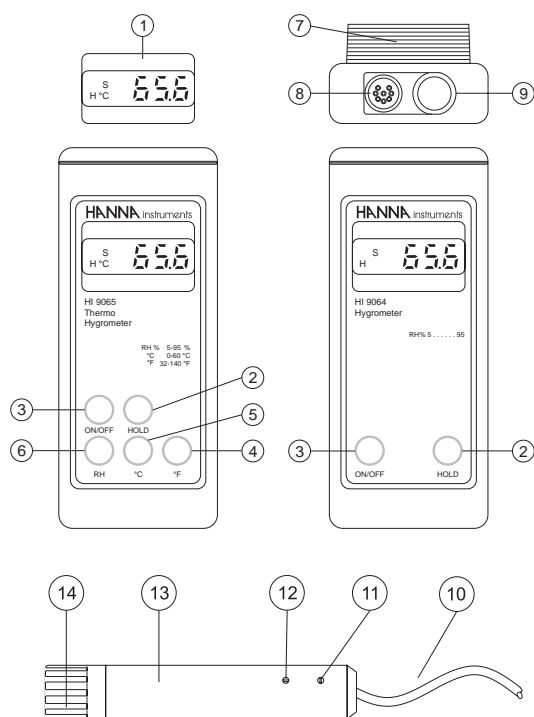
A "HOLD" key will instantly freeze the reading on the LCD.

HI 9065 can also measure temperature with an internal sensor in the RH probe from 0 to 60°C as well as from 32 to 140°F.

You can also connect a separate temperature probe for gas and liquid measurements (**HI 765** series).

Note: The RH probe sensor must never come into contact with water or other liquids.

FUNCTIONAL DESCRIPTION



- 1) Liquid Crystal Display (LCD)
- 2) **HOLD** key, to freeze reading on display
- 3) **ON/OFF** key, to turn the meter on and off
- 4) **°F** key, to display temperature in Fahrenheit (**HI 9065** only)
- 5) **°C** key, to display temperature in Centigrade (**HI 9065** only)
- 6) **RH** key, to display RH measurements (**HI 9065** only)
- 7) Battery compartment
- 8) RH probe socket
- 9) Temperature probe socket with protective cap (**HI 9065** only) for **HI 765** probe series (see "Accessories" section)
- 10) Shielded cable of RH probe
- 11) Low RH calibration trimmer
- 12) High RH calibration trimmer
- 13) Polypropylene probe body
- 14) Perforated protective cap, to prevent damages to the sensor

SPECIFICATIONS

	HI 9064	HI 9065
Range	5.0 to 95.0% RH	0.0 to 60.0°C / 32 to 140°F
Resolution	0.1% RH	0.1°C / 1°F
Accuracy	±2% RH	±0.4°C / ±1 °F (for 1 year, excluding probe error)
Typical EMC Deviation	±3% RH	±2°C / ±4°F
RH Calibration	Manual, 2 point through trimmers on RH probe	
Probe	HI 70608/2	HI 70605/2
Environment	0 to 50°C (32 to 122°F); RH max 100%	
Battery Type / Life	4 x 1.5V AA / approx. 500 hours of continuous use	
Dimensions	196 x 80 x 60 mm (7.7 x 3.1 x 2.4")	
Weight	500 g (1.1 lb.)	

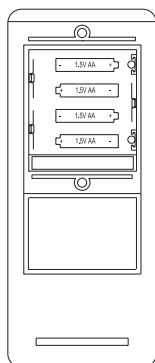
OPERATIONAL GUIDE

INITIAL PREPARATION

Each meter is supplied complete with four 1.5V AA batteries. Remove the back cover, unwrap the batteries and install them while paying attention to their polarity (see "Battery Replacement" section for details).

Connect the RH probe to the DIN socket on the top of the meter and fasten the screw tightly.

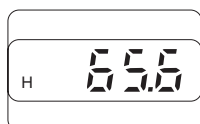
Note: HI 9065 can be used with just one probe (RH or temperature) at a time.



RH (RELATIVE HUMIDITY) MEASUREMENTS

Turn the meter on by pressing ON/OFF.

Press the RH key to display the RH% measurement. The "H" symbol on the display indicates RH measurement mode.



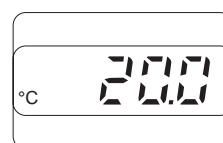
- For reliable measurements, the end of the humidity detector should be exposed to a current of air moving at 0.5 m (20") per second or more.
- In the absence of air movement, the response can be accelerated by moving the probe.
- The probe sensor must never come into contact with water or other liquids.** If this should happen, or if condensation causes drops to form on the surface of the humidity sensor, turn off the instrument and wait until they have evaporated completely. To accelerate the evaporation process, expose the humidity sensor to a current of air.

TEMPERATURE MEASUREMENTS (HI 9065 ONLY)

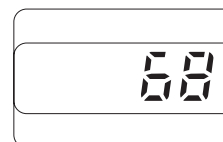
Connect the temperature probe (HI 765 series, see "Accessories") to the socket on the top of the meter and the unit will automatically display the temperature reading.

Note: HI 9065 can be used with just one probe (RH or temperature) at a time.

Press the "°C" key and the temperature value is displayed in degrees Centigrade with the "°C" symbol.



The same reading in degrees Fahrenheit is shown if the "°F" key is pressed.



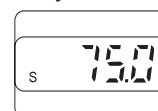
For any problem in taking measurements, please contact your dealer or the nearest HANNA Customer Service Department.

HOLD FUNCTION

The reading HOLD function is activated by the HOLD key.

The measured value is frozen on the display when this function key is pressed. "S" is displayed to indicate that the reading is also stored.

Press the same key again to return to normal mode.



DISPLAY CODES

°C temperature readings in degrees Centigrade (HI 9065 only)

H indicate RH (Relative Humidity) readings

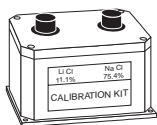
S indicate that displayed reading has been stored

CALIBRATION

All HANNA hygrometers have been precalibrated at the factory. HANNA instruments® uses state-of-the-art thermal humidity chambers for this purpose.

It is generally recommended to have all hygrometers recalibrated at least once a year. For an accurate annual recalibration, contact the nearest Hanna Service Center.

You can also check the status of your hygrometer and perform a quick RH recalibration (with an accuracy of $\pm 5\%$) by using the HANNA calibration chamber HI 7101.



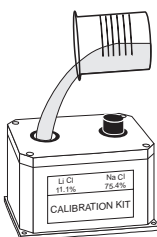
The kit is composed of two thermally isolated chambers, both equipped with a threaded cap and three bottles containing the appropriate precalibrated saturated salts to produce a known RH value.

PREPARING THE CALIBRATION SOLUTIONS

- Pour approximately 26 cc of distilled water into a glass container.
- Immerse this container into a bath of ice and water and shake briefly.



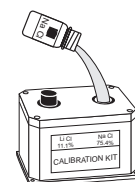
- Slowly add the contents of a HI 7111 bottle containing LiCl into the glass container while shaking.
- When the salts have dissolved completely, add the content of the second HI 7111 bottle.
- Allow the solution to cool, and pour it into the chamber marked "RH11.1%", making sure that no residue remains on the walls of the glass container.
- Seal the chamber well when not in use, as the LiCl solution is extremely hygroscopic and tends to capture the humidity present in the air causing the solution to expand in volume and overflow from the container.



- Pour approximately 12 cc of distilled water into the other chamber marked "RH 75.4%".



- Add all the content of the HI 7121 bottle containing NaCl while continuously shaking the container to avoid the formation of lumps. Seal this container well when not in use.

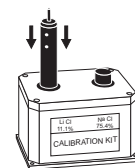


The calibration kit needs approximately 4 hours for stabilization.



CALIBRATION PROCEDURE

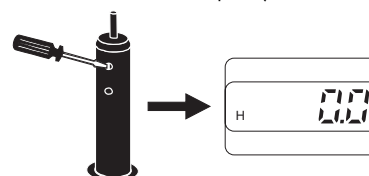
- Bring the calibration kit to a temperature of approximately 20°C.
- Remove the cap from the "RH 11.1%" chamber containing the LiCl solution and insert the probe paying attention not to dip it into the liquid.
- Remove the adhesive sticker which covers the calibration trimmer access holes.



- Press the ON/OFF key to switch the instrument on.



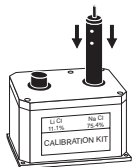
- Wait for the measurement to stabilize (this takes about 4 hours).
- Adjust the low humidity trimmer to read 0.0% (readings between 0.0% and 1.0% RH are also acceptable).



Note: The central trimmer is related to the temperature calibration, and you will find it on HI 9065 probe only.

- Remove the probe and tightly seal the chamber containing the LiCl solution.

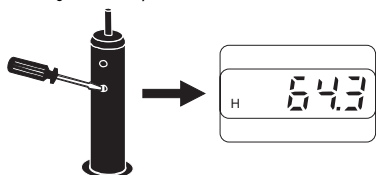
- Remove the cap from the "RH75.4%" chamber containing the NaCl solution and insert the probe.



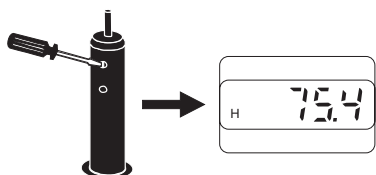
- Wait for the measurement to stabilize (approximately 4 hours)



- Adjust the high humidity trimmer to read 64.3%.



- Wait for 1 hour and readjust if necessary.
- Leaving the probe in the "RH 75.4%" chamber, adjust the low humidity trimmer until the display shows 75.4%.



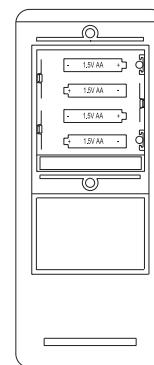
- The relative humidity calibration is now complete.

BATTERY REPLACEMENT

HI 9064 and HI 9065 are provided with the advanced BEPS (Battery Error Prevention System) technology that detects a low power condition and automatically turns the instruments off to avoid erroneous readings.

Battery replacement must only take place in a safe area and using the battery type specified in this instruction manual.

To replace the batteries, simply remove the two screws on the rear of the instrument and replace all four 1.5V AA batteries with new ones, while paying attention to the correct polarity.



ACCESSORIES

- HI 70605/2 RH probe with built-in temperature sensor, 2 m (6.6') cable and perforated cap (for HI 9065)
- HI 70605/5 RH probe with built-in temperature sensor, 5 m (16.5') cable and perforated cap (for HI 9065)
- HI 70607/2 RH probe with 2 m (6.6') cable and sintered cap (for HI 9065)
- HI 70607/5 RH probe with 5 m (16.5') cable and sintered cap (for HI 9065)
- HI 70608/2 RH probe with 2 m (6.6') cable (for HI 9064)
- HI 70608/5 RH probe with 5 m (16.5') cable (for HI 9064)
- HI 7101 Calibration chamber for probes with perforated cap, complete with O-ring and precalibrated saturated salts
- HI7111/P Spare saturation LiCl salts for low humidity calibration (15 g, 6 pcs)
- HI7121/P Spare saturation NaCl salts for high humidity calibration (33 g, 6 pcs)
- HI 721317 Rugged carrying case

TEMPERATURE PROBES FOR HI 9065

- HI 765A Temperature probe for air measurements
- HI 765L Temperature probe for liquid measurements
- HI 765PW Penetration temperature probe, white handle (also available with different handle colour)
- HI 765W Wire temperature probe, without handle, for hard-to-reach places

WARRANTY

All Hanna Instruments meters are guaranteed for two years against defects in workmanship and materials when used for their intended purpose and maintained according to instructions.

The probes are guaranteed for a period of six months.

This warranty is limited to repair or replacement free of charge.

Damage due to accident, misuse, tampering or lack of prescribed maintenance are not covered.

If service is required, contact the dealer from whom you purchased the instrument. If under warranty, report the model number, date of purchase, serial number and the nature of the failure.

If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization number from the Customer Service department and then send it with shipping costs prepaid.

When shipping any instrument, make sure it is properly packaged for complete protection.

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Hanna Instruments reserves the right to modify the design, construction and appearance of its products without advance notice.

CE DECLARATION OF CONFORMITY



DECLARATION OF CONFORMITY

We

Hanna Instruments Italia Srl
via E. Fermi, 10
35030 Sarmeola di Rubano - PD
ITALY

herewith certify that the hygrometers

HI 9064 and HI 9065

have been tested and found to be in compliance with EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC according to the following applicable normatives:

EN 50082-1: Electromagnetic Compatibility - Generic Immunity Standard
IEC 801-2 Electrostatic Discharge
IEC 801-3 RF Radiated

EN 50081-1: Electromagnetic Compatibility - Generic Emission Standard
EN 55022 Radiated, Class B

EN61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use

Date of Issue: 23-11-1998


P. Cesa - Technical Director
On behalf of
Hanna Instruments S.r.l.

Recommendations for Users

Before using these products, make sure that they are entirely suitable for the environment in which they are used.

Operation of these instruments in residential area could cause unacceptable interferences to radio and TV equipments, requiring the operator to take all necessary steps to correct interferences.

Any variation introduced by the user to the supplied equipment may degrade the instruments' EMC performance. To avoid electrical shock, do not use these instruments when voltages at the measurement surface exceed 24 Vac or 60 Vdc.

To avoid damages or burns, do not perform any measurement in microwave ovens. In particular cases the HI 9064 and HI 9065 meters could turn off. In these cases they can be turned on by pressing the ON/OFF key.

SALES AND TECHNICAL SERVICE CONTACTS

Australia:

Tel. (03) 9769.0666 • Fax (03) 9769.0699

China:

Tel. (10) 88570068 • Fax (10) 88570060

Egypt:

Tel. & Fax (02) 2758.683

Germany:

Tel. (07851) 9129-0 • Fax (07851) 9129-99

Greece:

Tel. (210) 823.5192 • Fax (210) 884.0210

Indonesia:

Tel. (21) 4584.2941 • Fax (21) 4584.2942

Japan:

Tel. (03) 3258.9565 • Fax (03) 3258.9567

Korea:

Tel. (02) 2278.5147 • Fax (02) 2264.1729

Malaysia:

Tel. (603) 5638.9940 • Fax (603) 5638.9829

Singapore:

Tel. 6296.7118 • Fax 6291.6906

South Africa:

Tel. (011) 615.6076 • Fax (011) 615.8582

Taiwan:

Tel. 886.2.2739.3014 • Fax 886.2.2739.2983

Thailand:

Tel. 66.2619.0708 • Fax 66.2619.0061

United Kingdom:

Tel. (01525) 850.855 • Fax (01525) 853.668

USA:

Tel. (401) 765.7500 • Fax (401) 765.7575

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For e-mail contacts and complete list of Sales and Technical offices, please see **www.hannainst.com**